

WE CLAIM:

1. A surgical drain comprising:
 - a) an elongated conduit configured to be implanted in and to drain fluid from a body cavity, the elongated conduit including a first surface located on an outer side of the elongated conduit and a second surface located on an outer side of the elongated conduit that is substantially opposite of the first surface;
 - b) a first sensing system configured to sense a physiological property of tissue proximate to the first surface; and
 - c) a second sensing system configured to sense the same physiological property of tissue proximate to the second surface.
2. The surgical drain of claim 1, wherein the physiological property is selected from the group comprising: temperature, oxygenation, perfusion, pH, NADH levels, biochemical composition, drug concentrations, turgidity or pressure.
3. The surgical drain of claim 1, further including at least one transmitting element configured to deliver energy to the tissue proximate to the first and second surface.
4. The surgical drain of claim 1, comprising a third sensing system configured to sense a second physiological property of tissue proximate to the conduit that is different from the physiological property sensed by the first and second sensing systems.
5. The surgical drain of claim 1, wherein the conduit includes a drain portion configured to rest against a substantial length of tissue within the body cavity and a plurality of drain holes spaced along substantially the entire length of the drain portion.
6. The surgical drain of claim 1, wherein at least portions of the first and second sensing systems are embedded within the conduit behind material that is optically transparent.
7. The surgical drain of claim 1, further including a processing system in communication with the first and second sensing systems configured to compare a

difference between the physiological property sensed by the first and second sensing systems.

8. The surgical drain of claim 7, wherein the sensing systems sense temperature and wherein the processing system is configured to compare the difference between the temperatures sensed by the first and second sensing systems.

9. The surgical drain of claim 1, further including a display configured to depict data corresponding to the physiological property sensed by the first or second sensing systems.

10. The surgical drain of claim 1, wherein the conduit includes a third surface located on an outer side of the conduit and a fourth surface located on an outer side of the conduit that is substantially opposite of the third surface and further including:

a third sensing system configured to sense the same physiological property of tissue proximate to the third surface; and

a fourth sensing system configured to sense the same physiological property of tissue proximate to the fourth surface.

11. The surgical drain of claim 10, further including a processing system configured to compare a difference between the physiological property sensed by the first and third sensing systems.

12. The surgical drain of claim 1, wherein the first and second sensing systems include optical fibers.

13. The surgical drain of claim 1, wherein the first sensing system includes a component that is affixed to the conduit.

14. The surgical drain of claim 1, wherein the component is embedded in the conduit.

15. The surgical drain of claim 1, wherein the component includes a sensor.

16. The surgical drain of claim 1, wherein the component includes an optical fiber.

17. A method of utilizing a surgical drain to monitor the condition of a tissue comprising:

implanting a surgical drain within a body cavity in proximity to tissue to be monitored, wherein the surgical drain includes a first sensing system and a second sensing system configured to sense a physiological property of the tissue;

receiving information from the first and second sensing systems regarding the physiological property of the tissue;

monitoring the information received from the first and second sensing systems to evaluate the condition of the tissue over time.

18. The method of claim 17, comprising processing information from the first and second sensing systems to compare a difference in information sensed by the first and second sensing systems.

19. The method of claim 17, comprising processing information from the first and second sensing systems to compare a difference in information received from the first and second sensing systems from different regions along the same tissue.

20. The method of claim 17, comprising processing information from the first and second sensing systems to compare a difference in information received from the first and second sensing systems from different tissues.